SONY

Digital Cinematography Camera

F35

F23

CINE ALTA™

www.sony.com/professional

ADVANCING THE ART OF DIGITAL IMAGING

CineAlta – a name that proudly symbolizes the bond between cinematography and high-resolution digital imaging, distinguishes Sony's family of 24P acquisition products and systems.
The emergence of Sony's CineAlta™ products marked the beginning of a new era in movie, commercial and television production applications. Since their introduction, CineAlta products – beginning with the groundbreaking HDW-F900, Sony's first 24P-capable HDCAM™ camcorder, and the HDC-F950 full-bandwidth 4:4:4 (RGB) portable camera – have been globally accepted as a viable creative alternative to 24-frame film origination.

Working closely with the creative community over time, Sony has created CineAlta acquisition systems designed specifically to meet the Cinematographer's needs. This collaboration has lead to array of highly sophisticated digital acquisition systems that offer comprehensive feature sets and workflows specifically designed to maximize on-set efficiencies, flexibility and creative freedom. Consequently, the name CineAlta has come to define the industry standards for quality and flexibility in 24-frame digital cinematography.

Expand Your Creative Possibilities With a Choice of Film-style Digital Cinematography Cameras

Sony has proudly introduced two new powerful film-style digital cinematography cameras to the CineAlta acquisition lineup. The F35 and F23 cameras combine the proven technology used in previous CineAlta acquisition models with a totally new ergonomic design to create two genuine film-style digital cinematography cameras.

The F23 is equipped with a newly developed optical head block that adopts a specially made prism allowing the camera to capture images with a wide color gamut (called S-Gamut), well-proven 2/3-inch CCD imagers with a high-precision 14-bit A/D converter, and a state-of-the-art DSP LSI, delivering extremely rich tonal gradation and the highest picture quality with low noise. It supports full-bandwidth RGB 4:4:4 1920 x 1080 image processing and multiple output formats including 24P, 50P, and 59.94P, plus true variable frame-capturing capability, which is also commonly known as "over-cranking" and "under-cranking" from 1 to 60P with speed ramping.

The F35 complements the F23 by offering a new Super 35mm-sized CCD sensor and PL lens mount for cinematographers who have ardent passion for 35mm film lenses. The F35's newly developed Super 35mm-sized CCD sensor provides breathtaking picture quality, an extensive range of depth-of-field controls, a more extensive dynamic range than the reputable F23, and F23-equivalent wide color gamut.
The PL lens mount of the F35 allows flexible use of the vast majority of 35mm cinema lenses, which greatly expands creative possibilities for users.

Both the F35 and F23 provide an uncompromising design that allows direct docking with Sony's SRW-1 portable HDCAM-SR™ recorder. It's also possible to use the F23 or the F35 in combination, for even more creative freedom. Developed specifically for cinematographers, both the F35 and F23 offer a compact, rugged, and unique design that is similar to film-type cameras. Sony's SRW-1 – an RGB 4:4:4 companion digital recorder – can dock directly to the top or the rear of the F35 or F23, eliminating the need for cumbersome cable-handling between the camera and recorder. When more mobility is required, such as for aerial and underwater shooting applications, the SRW-1 can be connected to the F35 or F23 using a Dual-Link cable connection or a single optical cable, which keeps these cameras as small and light as possible.

When used with the SRW-1 recorder, the F35 and F23 provide a variable frame rate recording capability that allows users to create unique 'looks' or special effects of slow and fast motion. Frame-rate settings for this function are variable from 1 frame per second (fps) to 60 fps (F23) / 50 fps (F35) in single frame increments. Other creative features – such as an S-LOG gamma mode, a HyperGamma mode, and a unique gamma-curve editing capability – are also incorporated into the F35 and F23.

The F35 and F23 can be used with an array of film camera accessories without modification, which is extremely important for film camera users. Offering exceptional quality, film-style operability, and invaluable creative features – plus a true blend of the latest technology with worthy film tradition – the F23 will enrich the creativity and workflow of commercial production, high-end television production applications, and even movie-making. Furthermore, the F35 firmly expands the possibility for high-end digital cinema and prime program productions.

Technology – Delivering Ultimate Quality and

F23

Creativity

Full-bandwidth RGB 4:4:4 HD Digital Image Capturing

Both the F35 and F23 provide a full-bandwidth 4:4:4 digital high-definition (HD) R, G, and B output that delivers top-quality picture and color performance. Connecting with its companion SRW-1 HDCAM-SR portable recorder, the F35 and F23 create a stunning-quality portable HD image-recording system. This capability yields significant results, especially in compositing and color-correction processes where highly exacting special-effects sequences and elaborate finishes are required in demanding movie-making, commercial, and television production applications. The F35 and F23 also support high-quality 4:2:2 Y/Cb/Cr image capturing and extended color gamut.

Variable Frame Rate Image Capturing

Variable frame rate image capturing, commonly known as over-cranking and under-cranking in film cameras, is one of the common techniques used in cinematic, commercial, and other high-quality productions. The F35 and F23 realize this long-coveted functionality in conjunction with the SRW-1's "SR Motion" feature*. The F35 and F23 provide a stunning feature called "Select FPS" to record variable frame rate images from 1 fps to 50 fps (F35) / 60 fps (F23) in 4:2:2 mode and from 1 fps to 30 fps in 4:4:4 mode. Frame settings from 1 fps to 50 fps (F35) / 60 fps (F23) in 4:4:4 mode are also available**, which can create high-quality images with striking details. These variable-speed images can be played back by the SRW-1 recorder immediately after shooting, without external processing.

* An SRW-1 recorder with an optional HKSR-102 Picture Cache Board installed is required, and has to be docked directly to the F35 or F23.
** An optional HKSR-103 RGB 60P Processor Board is required in the SRW-1.

State-of-the-art CCD Technology

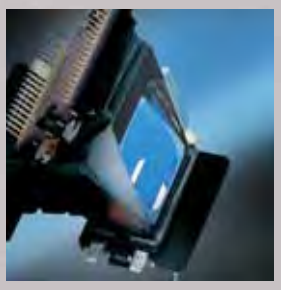
- Super 35mm-sized CCD (for F35)

The F35 is equipped with a newly developed 12 mega pixel Super 35mm-sized CCD sensor that yields a full HD resolution of 1920 x 1080 picture at frame rates up to 50 progressive frames per second. The result is exceptional image quality, a wide dynamic range, and extremely flexible depth-of-field control. The single sensor CCD uses a RGB striped filter without color filter arrays providing a true RGB 4:4:4 sample off the imager, and color values are never "interpolated" from neighboring pixels.

35mm-sized CCD

- Three 2/3-inch Type Progressive CCDs (for F23)

The F23 is equipped with three 2/3-inch type progressive CCDs, each with an effective pixel count of 1920 x 1080 (H x V), delivering a full HD resolution image.
This progressive scan CCD technology, together with the high-precision 14-bit A/D converter, provides an enhanced dynamic range and a remarkable signal-to-noise ratio, resulting in extremely rich tonal gradation that is 50% larger than conventional HD cameras.
This CCD also provides a high sensitivity of T10 (at 23.98P mode). Furthermore, a newly developed prism system allows the camera to capture images with a wide color space that is equivalent to color gamut for film.



2/3-inch CCD

14-bit A/D Converter and Advanced DSP LSI (for F35/F23)

By incorporating the advanced CCD technology and high-density 14-bit A/D converter, the exposure latitude of the F35 and F23 is significantly extended, allowing users to shoot challenging high-contrast scenes. This not only gives greater freedom in highlight control, but also in depth-of-field control – both of which are important factors for creative shooting.
A new powerful and high-speed DSP enables highly sophisticated image controls to expand the use of in-camera effects, such as multi-matrix, adaptive detail, and skin-tone detail corrections.

Flexibility – Smart Operation (for F35/F23)

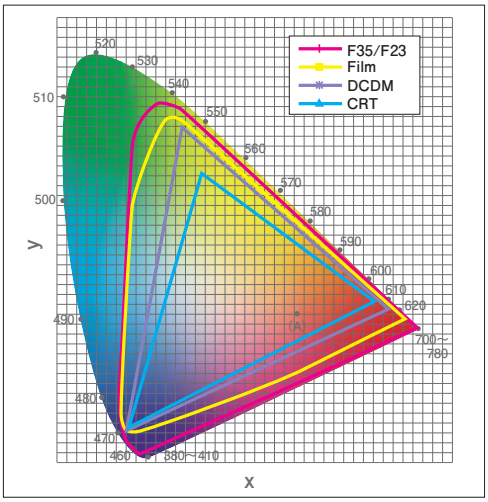
Multi-format Image Capturing

The F35 and F23 offer a broad choice of capturing modes, using 1920 (H) x 1080 (V) active pixels as specified by the industry-standard ITU Common Image Format (CIF), ranging from 59.94i/50i interlace to 59.94P/50P progressive mode. This multi-format image-capturing capability allows the F35 and F23 cameras to be used for multiple purposes in HD content-creation applications, including cinematic, commercial, and television productions. The following range of frame rates can be output:

-Progressive mode: 1080/23.98P, 24P, 25P, 29.97P, 50P, 59.94P
-Interlace mode: 1080/50i, 59.94i

Wider Color Space: S-Gamut

A newly developed optical head block, 3D LUT (lookup table), and proprietary color management system allow the F35 and F23 cameras to capture images with a wide color gamut called S-Gamut that exceeds that of film. This mode provides cinematographers with greater color-correction capabilities during the post-production process.



Flexible Design

The design of the F35 and F23 is based on years of thorough discussion with experts in cinematography. The camera employs a totally new ergonomic design – compact, lightweight, and cable-free – for a high level of mobility.

The camera body is compact and lightweight, weighing just 5 kg (11 lb) without a viewfinder, and the shape is similar to that of a film camera. The SRW-1 recorder can dock directly to the top or rear of the F35 or F23, in a similar way to how magazines would be attached to a film camera, eliminating the need for cumbersome cable-handling between the camera and the recorder.
What's more, the camera handle is flat on top, allowing for the stable attachment to a Steadicam® for low-mode operation.

F23

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F23

F23

Flexibility – Enhanced Film-style Operation (for F35/ F23)

New Ergonomics

New Accessories for Tethered System: CA-F101 and HKSR-101

There are some occasions when a recording device needs to be tethered from a camera, such as when the camera itself has to be as small as possible (e.g., when shooting in space-constrained areas) and when the recording device needs to be consolidated in the base station (often referred to as "video village" in Hollywood in the U.S.). Sony now offers two new accessories, the CA-F101 Optical Fiber Camera Adapter and the HKSR-101 Optical Interface Unit, to establish such a "tethered system". By docking the CA-F101 to the F35/F23 and installing the HKSR-101 to the SRPC-1 Processor Unit, it is possible to separate the SRW-1/SRPC-1 from the F35/F23 using a single optical fiber cable, which allows Dual-Link HD-SDI signals as well as camera control signals to be transmitted to and from the camera. This system can greatly reduce the number of cables between the camera and the VTR, thereby reducing the burden of cumbersome cable-handling.
Without the CA-F101 and the HKSR-101, it is still possible to tether the SRW-1/SRPC-1 to the F35/F23 – by using a Dual-Link HD-SDI conventional BNC cable connection between the camera and the VTR via the supplied interface box.

F35 with CA-F101 and HKSR-101

SRW-1/SRPC-1

* The SRPC-1 Video Processor is required.
** Power supply cannot be delivered over the optical fiber cable in this system.
*** The variable frame rate by this connection is from 1 fps to 60 fps (F23) / 50 fps (F35) in 4:2:2 mode and from 1 fps to 30 fps in 4:4:4 mode.

Rugged and Reliable Lens Mount

- PL Lens Mount for F35

The F35 camera employs a PL lens mount, which is standard for film cameras, allowing a number of zoom and prime lenses for 35mm film cameras to be used. This greatly broadens the choice of lenses for a wider spectrum of creative expression.

F35

- B4 Lens Mount for F23

The F23 integrates an extremely durable B4 lens mount to withstand frequent lens changes. Utilizing a rigid material with temperature-stabilized characteristics enables stable support of heavy lenses, and dramatically reduces any galling of the lens mount or drift of back focus.

F23

F35

Compatible with Film Camera Accessories

The F35 and F23 are designed to be compatible with a variety of film camera accessories such as ARRI™ accessories, giving users a broad array of choices. These include bridge plates, matte boxes, follow focus units, lens focus/zoom/iris servo control units, and more. These film camera accessories can be attached to the F23 without any modifications, so users who principally work with film can fully utilize their assets.

For the F23, a range of special digital cinematography zoom and prime lenses with 2/3-inch type B4 mountings are available from major manufacturers. These lenses are calibrated in T-stops rather than F-stops, and have cinematic-style focus rings and gear teeth for follow focus kits.

For the F35, a broad array of film camera accessories can be utilized.
The film camera accessories, including lenses, can be attached to the F35 without any modifications. Therefore, customers who principally work with film can fully utilize their assets.

Intuitive Controls

The F35 and F23 have been designed with special care to provide intuitive operation for film-making and also prime program production users. They offer two operation modes – "Cine Mode," which is dedicated for movie-making applications where image tone is normally adjusted in post-production process, and "Custom Mode," which is suitable for users who want to fine-tune camera parameters to produce their desired look while shooting. The "Cine Mode" offers stringently selected menus that are designed to be familiar to film users, allowing them to intuitively control camera settings as they would when operating a film camera. In contrast, "Custom Mode" allows access to full camera setup functions. In addition, buttons and indicators are designed to give film users a familiar and intuitive user interface.

Supplied Assistant Panel

In addition to the user-friendly control panel on the camera body, the F35 and F23 come equipped with an "Assistant Panel" remote controller. This is equipped with the identical buttons and indicator layout to the on-camera control panel, and provides intuitive remote control of basic camera and VTR operations, such as changing frame rates, shutter angle, and gain, etc.
This easy-to-use panel greatly increases operational convenience in the field.

Operational Versatility (for F35/F23)

Supplied Interface Box

For flexible connection to a range of peripherals, the F35 and F23 are supplied with an interface box. This provides two HD-SDI outputs, which can be used either for Dual-Link connection with the SRW-1 recorder or a single HD-SDI connection. It also comes equipped with two-channel analog audio inputs.
This interface box can also be used for battery operation, allowing Sony's BP-GL95 to be attached to the F35 or F23*.

*To use the battery, the optional BKP-L551 is required between the camera and battery.

Built-in Down-conversion Output

The F35 and F23 provide an analog composite down-conversion output. With this capability, HD-originated content can be monitored using an existing SD monitor.

12 V and 24 V DC Accessory Power Outputs

The F35 and F23 can supply power to any compatible accessories attached to them, such as a lens focus/zoom/iris servo control unit, through its DC 12 V and DC 24 V* connectors. This convenient feature eliminates the need for external power supply equipment for these accessories, and contributes to maintaining high mobility even when the camera is configured with many accessories.

*To supply power to an accessory that operates with DC 24 V, a dual-voltage battery, which can supply both DC 12 V and 24V simultaneously, is required.

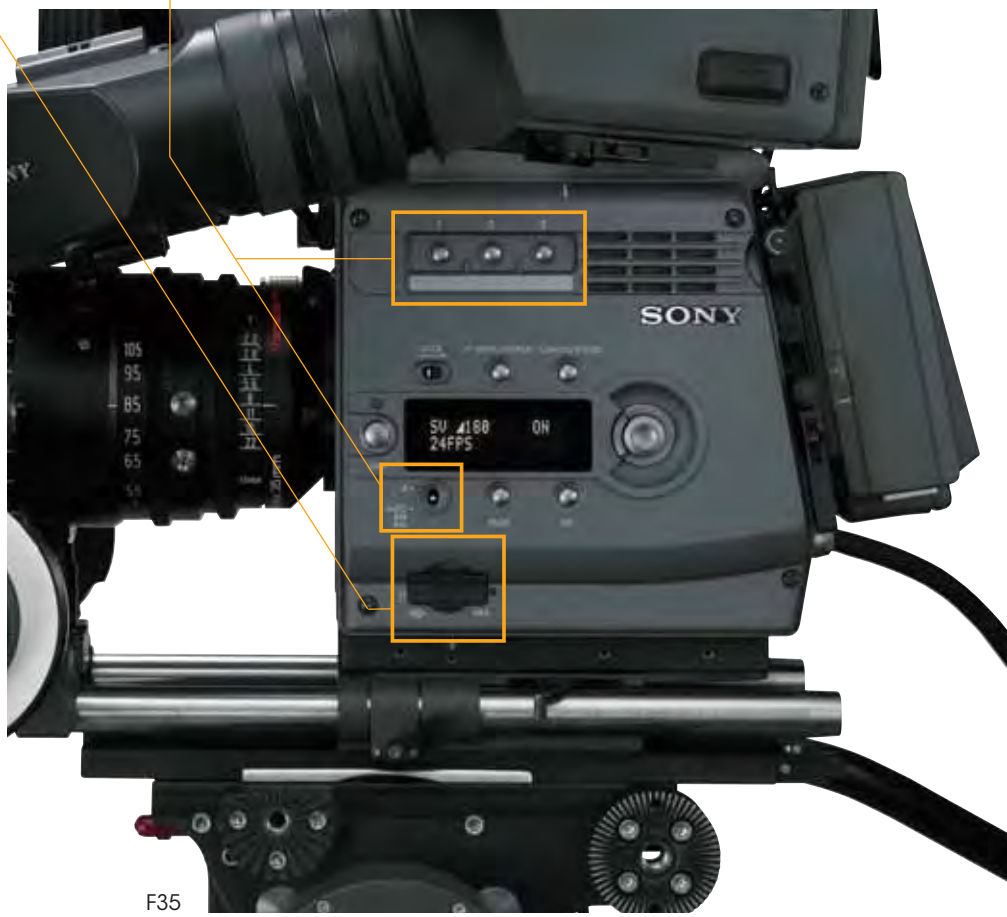
Assignable Switches

Functions frequently used in the field can be assigned to three push buttons and one switch, allowing the operator to make rapid changes when working in the field.

Memory Stick Storage of Camera Setup Parameters

The F35 and F23 are capable of saving and recalling setup parameters such as scene files, reference files, and lens files via Memory Stick PRO™ media*. This allows users to effectively manage camera parameters for individual scenes, plus the specific camera-setup preferences of individual operators, such as viewfinder indicator settings.

*Although an operational check of this product has been performed with up to 2GB Memory Stick PRO media, please note that operation is not guaranteed for every type of Memory Stick™ media.



F35

In-camera Creativity (for F35/F23)

Versatile Gamma Settings

In addition to artistic and skillful lighting techniques, the use of in-camera gamma settings plays an important role in handling contrast range and producing a specific 'look' for an image. The F35 and F23 offer the following enhanced gamma control options to expand such capabilities:

S-LOG Gamma

The F35 and F23 are equipped with an innovative "S-LOG" gamma that can make full use of the wide dynamic range of the CCD. The characteristics of the "S-LOG" gamma are similar to that of a film negative, which allows users to flexibly adjust images as they wish in the post-production process. When the S-LOG mode is selected, the full latitude (dynamic range) captured by the CCDs is efficiently converted to the gamma data using Sony's unique algorithm, and can be transferred as a 10-bit HD-SDI signal. This unique gamma-handling technique allows all the image information – even in extreme highlight areas, for example – to be maintained so that tone can be faithfully reproduced.

HyperGamma

HyperGamma is another powerful gamma feature, which is inherited from the HDW-F900R CineAlta camcorder. The F35 and F23 provide four types of HyperGamma curve: HyperGamma 1, 2, 3, and 4. Operators can select the best-suited preset gamma curve depending on the scene being shot and their desired 'look' for the image. HyperGamma 1 and 3 enhance natural tonal reproduction in low-key areas, while HyperGamma 2 and 4 are suitable for scenes with wide dynamic ranges. All HyperGamma are quickly accessible via the set-up menu.

Customizable Gamma Curve by CVPFileEditor™ Software

The F35 and F23 allow cinematographers to customize gamma curves depending on their creative needs using the CVPFileEditor gamma creation software. This software runs on a Microsoft® Windows® PC, and enables the gamma curve to be visually edited via an easy-to-use GUI, simply by plotting the x and y values of each point of the curve. Once the gamma curve has been created, it can be easily loaded into the F35 or F23 using a Memory Stick media.

Multi-matrix Control

The multi-matrix function of the F35 and F23 allow color adjustments to be applied over a color range specified by the operator. The color spectrum is divided into 16 areas of adjustment (approximately 20 degrees), where the hue and/or saturation of each area can be flexibly modified. This unique function presents interesting 'in-camera' effects – similar to the secondary color correction normally reserved for post-production special-effects work – and is performed at the full bit depth.

Multi Matrix OFF

Multi Matrix ON

Simulated image

Knee Saturation Correction

Shooting very bright portions of an object (such as key light conditions from a person's forehead) can reduce color saturation and change the hue in highlight areas. The F35 and F23 adopt a knee saturation function, in which this "washed-out" effect on saturation and hue change is reduced to a minimum, and offers far more natural color reproduction in highlight areas.

Knee Saturation OFF

Knee Saturation ON

Simulated image

Low Key Saturation Correction

With traditional video cameras, low light areas can be subject to a reduction in saturation. This can result in the colors in those areas appearing "washed-out". The low key saturation function on the F35 and F23 eliminates this problem by optimizing the amplification of color saturation at low light levels by boosting it to an optimized level, thus providing more natural color reproduction.

Low-key Saturation OFF

Low-key Saturation ON

Triple Skin Tone Detail Control

The F35 and F23 come equipped with a triple skin tone detail control function, which allows for independent detail control over three specified colors. This enhances the capability of skin tone detail correction – enabling one color selection to be used for reducing the detail level of skin color, and two other selections to be used for either increasing or decreasing the detail level of two other objects. This can be a powerful imaging tool not available in film shooting.

Skin Tone Detail OFF

Skin Tone Detail ON

A Wide Variety of System Components (for F35/F23)

MSU-900/950 Master Setup Unit

The MSU-900/950 Master Setup Unit is a central control panel used for the adjustment of camera parameters in a multi-camera system. Equipped with a 6.5-inch* type LCD display, the MSU-900/950 allows clear viewing of adjustment parameters during operation. A built-in Ethernet interface (10BASE-T/100BASE-TX) enables the MSU-900/950 to be connected to the F35 and F23 cameras either directly or via a network hub. Equipped with a Memory Stick media slot, setup parameters can be stored and transferred between cameras using Memory Stick media.

*Viewable area measured diagonally

MSU-900

MSU-950

RM-B750 Remote Control Unit / ARRI Wireless Remote Control Unit WRC-2

The RM-B750 Remote Control Unit establishes a highly mobile and fully controllable camera system in the field by integrating control capabilities equivalent to those of the MSU-900/950 Master Setup Unit. The combination of an LCD touch-panel screen and direct push buttons enables users to adjust and control camera parameters. When necessary, basic tape transport of the connected SRW-1 can be controlled from the RM-B750. For further operational convenience, the RM-B750 has a Memory Stick media card slot that enables various setup parameters to be stored and transferred between cameras.

In addition, the industry-standard ARRI Wireless Remote Control Unit WRC-2 and Universal Motor Controller UMC-3 can also be utilized to control the F35 and F23.

By using the WRC-2, the status of the camera can be displayed and the frame rate can be adjusted during recording, just like a conventional film camera. This is done in the same way as you would do on the camera itself.

To keep the correct exposure of the captured image, the F35 and F23 are equipped with two compensation modes: Angle compensation mode and Gain compensation mode.

When a change in the frame rate is detected, whichever compensation mode is activated at the time works automatically to retain the video level.

Angle compensation mode automatically corrects the shutter angle to retain the video level.

Gain compensation mode automatically corrects the gain to retain the video level, while maintaining the existing shutter angle setting.

RM-B750

ARRI Wireless Remote Control Unit WRC-2

HDVF-C35W LCD Color Viewfinder

The HDVF-C35W, 3.5-inch* type HD LCD color viewfinder provides an optimum level of visual information via a full-color TFT-LCD device. Employing a unique detachable eye-piece construction, camera operators can clearly view images from various positions and angles. In addition, this LCD display offers a wide viewing angle, offering operational convenience when a number of people want to view the same picture at the same time. What's more, by incorporating an aspherical lens in its eye-piece, aberration at each corner of the viewfinder is reduced for easy focusing.

*Viewable area measured diagonally.

HDVF-C35W

Optional Accessories (F35/F23)

HDVF-20A
2.0-inch* CRT B/W Viewfinder

HDVF-C35W
3.5-inch* LCD Color Viewfinder

RM-B750
Remote Control Unit

RM-B150
Remote Control Unit

MSU-900
Master Setup Unit

MSU-950
Master Setup Unit

MSX-256S/512S/ 1GS/2GS
Memory Stick PRO Media

AC-DN2B
AC Adapter

AC-DN10
AC Adapter

BKP-L551
Battery Adapter

BP-GL95
Lithium-ion Rechargeable Battery

BC-L500
Battery Charger

BC-L70
Battery Charger

BC-M150
Battery Charger

*Viewable area measured diagonally
**These cannot be used in the direct docking configuration of the F35/F23 and SRW-1.

Optional Accessories From Other Manufacturers

ARRI (for F35/F23)

BP-5
Bridge Plate

BP-8
Bridge Plate

MB-20
Matte Box

CLM-1
Lens Servo Unit

CLM-2
Lens Servo Unit

Anton/Bauer (for F35/F23)

UMC-3
Wireless Lens Control System

FF5-HD
Follow Focus Unit

WRC-2
ARRI Wireless Remote Control Unit

DT500
Power Supply Unit

CINE-VCLX-CA
Battery System

Optional Accessories From Other Manufacturers

Lenses for F35

Carl Zeiss

Master Prime Lenses

Ultra Prime Lenses

Light Weight Zoom
LWZ-1

Cooke

S4/i Prime Lenses

Angenieux

Optimo 15-40 mm

Optimo 17-80 mm

Optimo 28-76 mm

Optimo 24-290 mm

Lenses for F23

Carl Zeiss

DigiPrime Lenses

DigiZoom Lenses

Sharpmax

Canon

HD-EC Prime Lenses FJs Series

HD-EC Zoom Lens
HJ21x7.5B KLL-SC

HD-EC Zoom Lens
HJ11x4.7B KLL-SC

HD-EC Zoom Lens
HJ8x5.5B KLL-SC

Fujinon

HD CINE SUPER ZOOM/
Prime Lenses

HD CINE COMPACT C
Lens
HAc13x4.5

HD CINE COMPACT C
Lens
HAc15x7.3

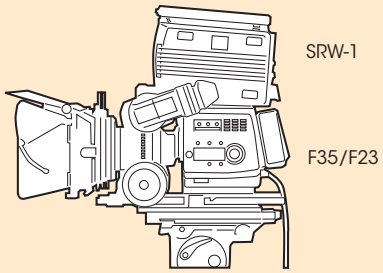
HD CINE COMPACT C
Lens
HAc18x7.6

For details, please contact each manufacturer

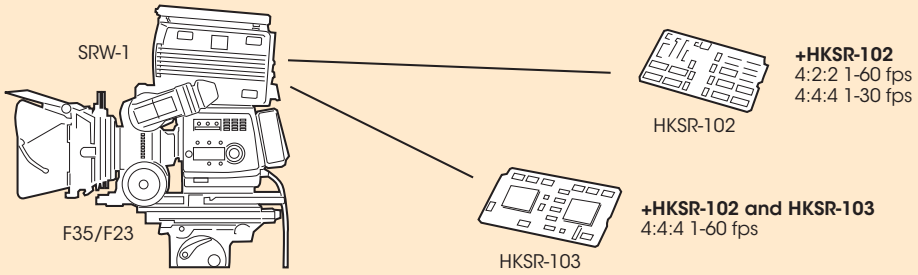
System Configuration

F35/F23 + SRW-1 Direct Docking

RGB 4:4:4 Recording

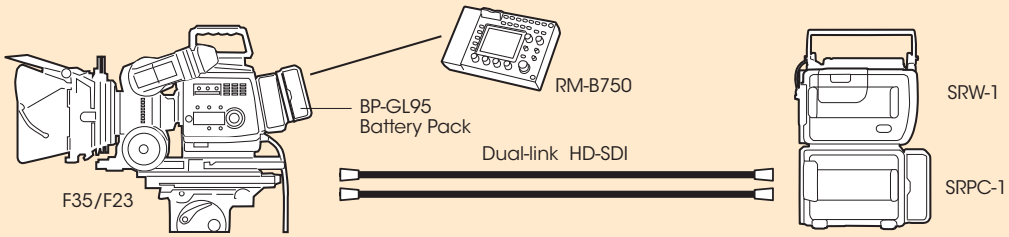


Select FPS Recording

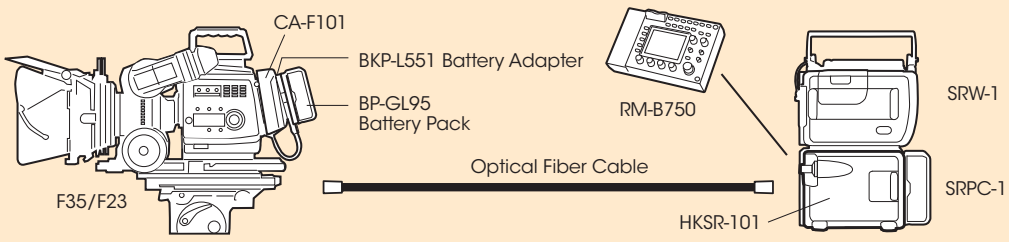


F35/F23 + SRW-1/SRPC-1 Separate System

RGB 4:4:4 Recording (HD-SDI Dual-Link Connection)



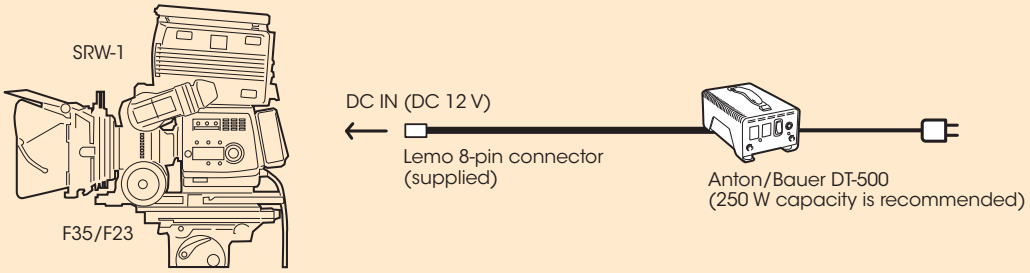
RGB 4:4:4 Recording (Optical Fiber Cable Connection)



Power Supply Configuration

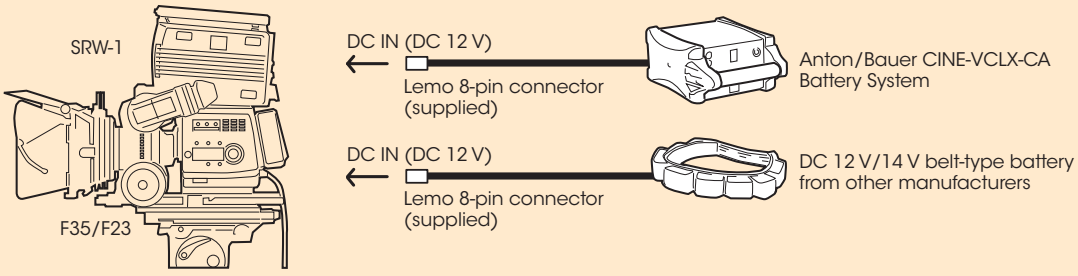
F35/F23 + SRW-1 Direct Docking

AC Operation



Sony AC-DN2B/DN10 AC Adaptor cannot be used in this configuration.

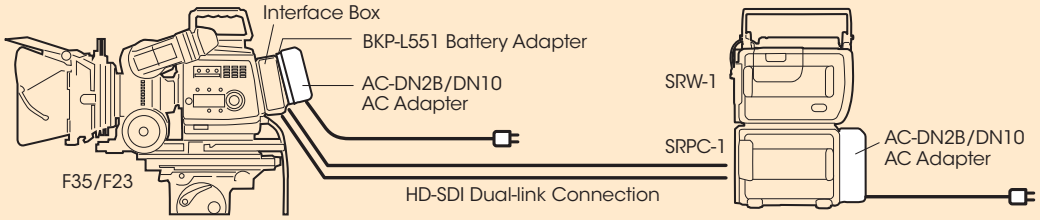
DC Operation



Sony BP-GL95 battery cannot be used in this configuration.

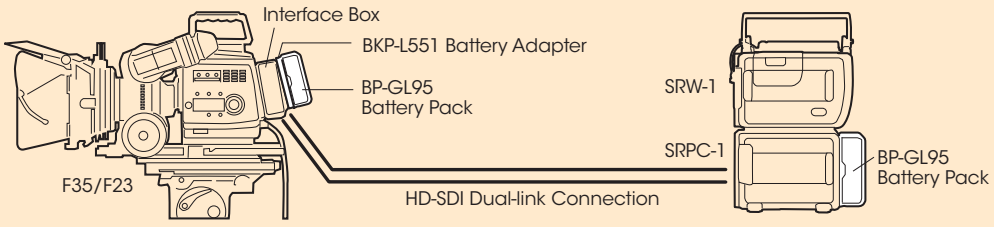
F35/F23 + SRW-1/SRPC-1 Separate System

AC Operation (HD-SDI Dual-Link Connection)



AC-DN2B/DN10 are separately required for the F35/F23 and the SRPC-1/SRW-1

DC Operation (HD-SDI Dual-Link Connection)



Batteries are separately required for the F35/F23 and the SRPC-1/SRW-1

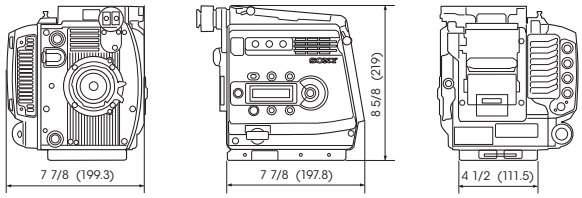
Specifications

	F23	F35
General		
Weight	Approx. 11 lb (5.0 kg)	
Power requirement	DC 10.5 V to 17 V	
Power consumption	56 W (without lens, viewfinder, at 23.98PsF mode) 116 W (with SRW-1, without lens, viewfinder, at 23.98PsF mode)	58 W (without lens, viewfinder, at 23.98PsF mode) 118 W (with SRW-1, without lens, viewfinder, at 23.98PsF mode)
Operating temperature	32 °F to 104 °F (0 °C to 40 °C)	
Storage temperature	-4 °F to +140 °F (-20 °C to +60 °C)	
Camera section		
Pickup device	3-chip 2/3-inch type Progressive CCD	1-chip Super 35 mm type Progressive CCD
Aspect ratio	16 : 9	
Effective picture elements	1920 x 1080 (H x V)	1920 x 3(RGB) x 2160(Camera output:1920 x 1080 RGB)
Optical system	F1.4 prism system	—
Built-in filters	A: 3200K, B: 4300K, C: 5600K, D: 6300K, E: ND0.3 (1/2ND) 1: Clear, 2: ND0.6 (1/4ND), 3: ND1.2 (1/16ND), 4: ND1.8 (1/64ND), 5: CAP	—
Lens mount	Special made rugged Sony bayonet mount (B4)	ø54 mm PL mount
Sensitivity (at 2000 lx, 89.9% reflective) at Extend Mode at 29.97Psf	NORMAL MODE T10 ISO430 EXTEND MODE T11 ISO580	NORMAL MODE T9 ISO340 EXTEND MODE T10 ISO450
Registration	Within 0.02% (all zones, without lens)	—
Distortion	Below measureable level (without lens)	
Setup card	Memory Stick PRO, MemoryStick PRO Duo	
Signal inputs/outputs		
Genlock video input	BNC type x1, 1.0 Vp-p, 75 Ω	
Audio CH1/CH2 input (with supplied interface box)	XLR-3-31 type (Female), line/mic/mic +48 V selectable	
Test output	BNC type x1, VBS/HD Y	
Dual-Link HD-SDI output	BNC type x2	
(with supplied interface box) Monitor output	BNC type x2, HD-SDI (4:2:2)	
DC input	Lemo 8-pin (Male) x1, DC 10.5 V to 17 V, DC 20 V to 30 V	
DC input (with supplied interface box)	XLR-4-pin type (Male) x1	
DC output	DC 12 V: 11-pin x1, max. 4 A DC 24 V: 3-pin x1, max. 5.5 A	
Lens	12-pin x1	
Remote	8-pin x1	—
Viewfinder	20-pin x2	
External input/output	Lemo 5-pin (Female) x1	
Network	RJ-45 type x1, 10BASE-T/100BASE-TX	
Supplied accessories		
	Interface box x1, Assistant panel x1, Cable for assistant panel x1, Assistant panel hanger x1, +B4x8 screw x4, Center handle x1, LEMO 8-pin connector x1, Operation manual x1	

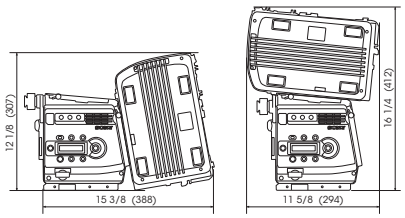
Dimensions

Unit: inches (mm)

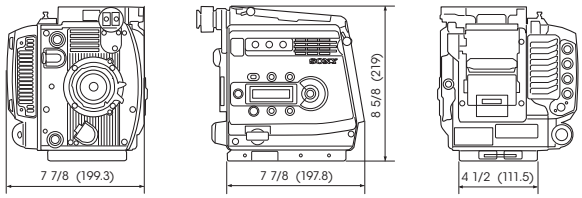
F35



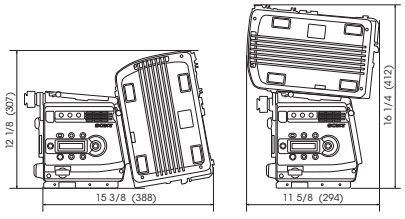
F35+SRW-1



F23



F23+SRW-1



SONY

Sony Electronics Inc.
1 Sony Drive
Park Ridge, NJ 07656
www.sony.com/professional

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